

GAGE (Homer)

EXTRA-UTERINE PREGNANCY.

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588 -

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BY HOMER GAGE, M. D., WORCESTER, MASS.

So much of the recent literature upon this subject is occupied in advancing and defending new theories in regard to such questions as where impregnation normally takes place, what determines the lodgment of the ovum in the uterus or tube, the transmigration of the ovum, etc., that I think oftentimes the points of importance which have been really and finally determined, and which are of the greatest practical interest and value to us as physicians and surgeons, are lost sight of. I trust that you will pardon me therefore for bringing forward one or two matters in connection with this subject which were perhaps already sufficiently familiar to you, but which seem to me to deserve all the emphasis we can give them.

In the first place, we must regard it as settled—and it is of the greatest importance in the successful management of these cases surgically—that an extra-uterine pregnancy is probably always a tubal pregnancy. For the establishment of this fundamental principle in the pathology of ectopic gestation the profession must acknowledge its indebtedness to the brilliant work of Lawson Tait, who, in his treatise on this subject, published in 1888, said: “Whatever difference of opinion in these matters there may be, there can be but a uniform consensus of belief to this effect: that by far the greater number of cases of ectopic gestation are tubal. I believe that they are really all tubal, and in this consists the novelty of my views on the subject.” So completely has this opinion come to be accepted by subsequent investigators that we find Webster, in the full monograph which he has recently published, beginning the classification of the subject in this way: “Ectopic gestation—pri-

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OCT.-30-1897

588-

marily tubal, in all cases so far as known." Tait regarded ovarian pregnancy as possible but not proved. Webster goes even further, and believes that the ovum can develop only upon the mucous membrane of the uterus or tube; that ovarian, and all other forms of extra-uterine pregnancy, are primarily impossible. Just as the use of the terms typhlitis, perityphlitis and paratyphlitis, typhlo-enteritis, etc., have had to be abandoned in the face of the demonstration that all these conditions originate in the appendix, so the complicated and confusing classifications of extra-uterine pregnancy into tubal, ovarian, tubo-ovarian, abdominal, etc., have had to give way before the accumulated evidence of abdominal surgery, and the resulting more exact knowledge of pelvic pathology.

Not only is it established that practically all cases of extra-uterine pregnancy begin their development in the Fallopian tube, but it seems further established that an overwhelming preponderance of all cases occupy in the beginning the free part of the tube, and that those cases which develop in that part of the tube which is included in the horn of the uterus, although occasional, are very rare.

A second point of equal importance is, that in all cases the tube must sooner or later rupture, from its overdistention by the growing ovum. Its rupture is always attended by hæmorrhage. This hæmorrhage may occur from the upper and free surface of the tube, and therefore into the general peritoneal cavity; it may occur from the fimbriated end, whence it may escape into the free abdominal cavity; or, if occurring slowly, may be shut off by adhesions between the tube, the ovary, and the broad ligament; or it may occur from that part of the tube which is included between the two layers of the broad ligament, in which case it is necessarily smaller in amount, and immediately less serious in its consequences.

In the first form, where it escapes into the free abdominal cavity, it gives rise to an intraperitoneal hæmatocele. In the second form, where it escapes into the adhesions between the ovary and tube or into the broad ligament, it gives rise to an extraperitoneal hæmatocele. The first form is almost always, if not always, fatal to the further development of the foetus. In the second form, the development of the foetus may continue, even to full term, or it may be destroyed by secondary hæmorrhages into the placenta or into the general peritoneal cavity by secondary rupture of the sac.

But the rare instances in which the development of the foetus

continues, and the still rarer ones in which a living child has been successfully delivered, are altogether too few to justify us in considering for a moment the life of the child. The importance of a ruptured tubal pregnancy and its attendant hæmorrhage lies in the terrible danger to the mother. And this danger is further enhanced by the possibility—I ought rather to say probability—of a secondary rupture, even should she survive the first. Primary rupture occurs most commonly within the first three months. Tait says that he has seen no case of ruptured tubal pregnancy—that is, primary rupture—either in his own practice or in any of the museums, in which there was evidence to show that it was over the twelfth week. Parry and Webster, while agreeing that in the majority of cases rupture occurs during the first four months, state that it may take place at any time during the succeeding months of the pregnancy. In all of my own cases in which it is possible to set the time at all accurately, rupture occurred within twelve weeks. The secondary rupture may occur at any time from a few days to several weeks, or even months, after the first.

A third point of very great practical interest in the study of these cases lies in the change which it has wrought in our views about pelvic hæmatocele. In the fifth edition of Thomas' *Diseases of Women*, published in 1880, is a list of eleven possible causes of intra-pelvic hæmorrhage, and among these ectopic gestation occupies a very inconspicuous and apparently unimportant place. On the other hand, Tait states that he has never seen intraperitoneal hæmatocele that was not due to a ruptured tubal pregnancy. And very many cases of extraperitoneal hæmatocele have undoubtedly been tubal pregnancies which have ruptured between the folds of the broad ligament. Both Parry and Webster unite in recognizing it as by far the most important cause of both forms of pelvic hæmorrhage; and the latter says that "the formation of pelvic hæmatoma and hæmatocele, apart from the rupture of an ectopic gestation, has come to be regarded as a rare occurrence." It is hard for many of us to give up the old idea of menstrual blood backing up into and through the Fallopian tube, but the hard fact remains that, wherever such a hæmorrhage has been investigated, its origin has almost always been found in a ruptured extra-uterine pregnancy.

Abdominal surgery, then, has taught us that extra-uterine pregnancy stands in much the same relation to pelvic hæmatocele that appendicitis does to acute peritonitis in the male.

I have thus directed your attention, perhaps rather tediously, to these few points, that seem to me to underlie the attitude of modern surgery toward this horrible accident. In review, they are briefly: First, that all extra-uterine pregnancies are tubal pregnancies; second, that all rupture, generally within the first few weeks of the pregnancy, and that rupture is attended by hæmorrhage, which unchecked is a most fatal accident to the mother as well as to the foetus; and third, that pelvic hæmatocele is, at least in the great majority of cases, the result of such a rupture.

Permit me now to ask your attention for a moment to the clinical symptoms of extra-uterine pregnancy.

When rupture takes place, as it ordinarily does from the sixth to the tenth week, the patient may be entirely unconscious of the fact that she is pregnant at all, and, even if the suspicion of pregnancy exists, there is ordinarily no reason to suppose that the ovum is not normally situated within the uterine cavity. Our attention is therefore rarely called to these cases before the rupture of the sac. There are, however, one or two conditions whose existence in cases of probable pregnancy ought, I think, always to be made the subject of most careful investigation. They are, first, irregular hæmorrhage, not the persistence of the catamenia, as was from the time of Petit to Parry the generally accepted sign of extra-uterine foetation, but an irregular, bloody vaginal discharge, small in amount, at times associated with clots or membranes. Such a discharge existed for one or two weeks before primary rupture in two cases that have come under my observation; and I believe that its presence, if called to the physician's attention, should always lead to a careful pelvic examination, and, if associated with tubal enlargement, the probability of an extra-uterine pregnancy should immediately suggest itself to the examiner.

Most authorities speak also of intermittent pelvic pain, in cases of supposed early pregnancy, as sometimes an indication of the extra-uterine variety. I have never met with this, nor has it been mentioned by any of my patients as having attracted their attention. However, I believe that if noted, it, as, in fact, any other indication of unusual pelvic disturbance, should be made the occasion for immediate and careful pelvic examination, with a special reference to the condition of the tubes. The fact remains, however, that in the great majority of all cases not only will the physician have no opportunity of examination, but the patient herself will

have no warning until the tube ruptures, and a fatal hæmorrhage, perhaps, occurs before assistance can be summoned.

Intraperitoneal rupture is at once associated with the symptoms of shock and internal hæmorrhage; sudden, severe pain in the abdomen; faintness; collapse; weak, rapid pulse; blanched countenance, with, perhaps, dullness across the lower abdomen, with great tenderness. Death may follow within a very few hours, or may be delayed a day or two. Such an accident is, as we shall see later, almost uniformly fatal. The rupture of the sac into the broad ligament is attended by sudden severe pain, vomiting, faintness, and a lesser and more transitory condition of shock. Physical examination will disclose a fixed, immovable tumor within the pelvis. Such a tumor may entirely disappear by absorption, or the ovum may continue to develop, even to full term, when a condition of spurious labor, so called, occurs, and the child, if undelivered, dies. This represents the two extremes—immediate absorption or continued development. Instances of the latter condition are certainly rare; of the former, are probably much more common than we have been formerly aware. I think, however, that the majority of cases follow a course between these two; the ovum is not destroyed at first, but its further development gives rise to repeated hæmorrhages, perhaps still further distending the folds of the broad ligament, or even bursting through into the peritoneal cavity, and giving rise to an accident as serious as primary intraperitoneal rupture itself. If the patient escape this accident, there is still the serious danger of suppuration and septicæmia. The chance of getting a living child is too remote to be considered, even from the standpoint of the child; and the dangers of secondary rupture and suppuration are so serious to the mother that the cases of extraperitoneal, as well as intraperitoneal, rupture are more safely dealt with by surgical interference, though, of course, the same emergency seldom arises in one as in the other.

Of the prognosis in intraperitoneal rupture Goupil says: "It is but too true, I fear, that we are authorized in saying that all the cases of intraperitoneal hæmorrhage arising from extra-uterine pregnancy end in death. In fact, all the cases that I have quoted terminated in death. Generally, it has taken place in a few hours or days, and, although death has been delayed for six months, it is wholly exceptional."

Parry collected one hundred and forty-nine cases and one hun-

dred and forty-five deaths. And Webster says that "in the majority of cases of rupture death will occur within twenty-four hours unless an operation be performed." Death occurs most commonly from direct loss of blood, though, as pointed out by Richardson, it often happens that, when the amount of blood lost is comparatively small, the peritoneal shock is in itself a sufficient cause of the fatal result. The only escape from this terrible mortality lies in a prompt surgical interference and the arrest of hæmorrhage. I believe, further, that most of the cases of extraperitoneal rupture should also be subjected to abdominal section; that the operation should be delayed in these cases only long enough to allow the patient to rally from the primary shock; and that further delay subjects her to greater danger from secondary rupture or suppuration than is involved in the operation itself.

I desire now to report seven cases to illustrate some of the points which I have tried to impress upon you.

CASE I.—M. M., aged twenty-seven years; married. Entered the Worcester City Hospital, September 23, 1891. No previous illness. Confined with her first child in the previous July. Not very well since. Soon after the convalescence began to complain of pain in the right inguinal region, and to notice gradual distention of abdomen. Examination of the heart and lungs was negative. The urine was normal. The abdomen much distended; dull on percussion; transmitted impulse showed presence of fluid in the abdominal cavity. Her legs and ankles were slightly swollen. She remained on the medical side until October 12th, when she was transferred to my service. Operation on the 15th. Incision below the umbilicus opened into a cavity, shut off from the general peritoneal cavity by adhesions, containing six quarts of muddy fluid and two quarts of what looked like rotten sponge, but which, on examination, proved to be decomposed blood clots. The cavity was irrigated and drained, and she was discharged well on the 14th of November.

CASE II.—C. H., aged thirty years; married; an Arabian. Entered the Worcester City Hospital, September 21, 1893. She had been seen outside the hospital by Dr. W. R. Gilman, who found her in a state of shock from internal hæmorrhage, and the diagnosis of ruptured extra-uterine pregnancy was made and operation advised, but refused. During the next four weeks she had had irregular uterine hæmorrhage, with pain and steadily increasing abdomi-

nal enlargement. She had a systolic murmur at the heart's apex, transmitted into the axilla. The abdomen was symmetrically enlarged, containing fluid, and one week after her admission to the hospital there were evidences of effusion in both pleural cavities. Her pulse was very rapid and feeble, her temperature hectic, and her general condition very unfavorable. She was transferred to my service on the 8th of October. Incision revealed about a pint of very offensive muddy fluid and two pints of decomposed blood clots similar to that in Case I. Cavity was irrigated and drained, and she was discharged well on the 20th of November.

Both of these cases illustrate, I think, the natural course of extraperitoneal hæmatocele which has undergone suppuration. In the first instance the existence of an extra-uterine pregnancy may, perhaps, be doubted, although no other cause could be found to account for the hæmorrhage. In the second case there could be no question about the diagnosis; and the very unfavorable condition of the patient at the time of operation is an example of what may follow neglected hæmatocele. Once the existence of a hæmorrhage is fully established and the sense of fluctuation definitely obtained, I can see no advantage in waiting for its possible absorption and running the risk of suppuration, with systemic infection, as in this case. Certainly, if sufficient aseptic precautions are observed, the danger of opening and washing out an hæmatocele ought to be practically nothing.

CASE III.—M. S., aged forty years; a widow. Entered Worcester City Hospital, November 3, 1890. A stout, healthy-looking German, always well and strong. Had one child, who was about twenty years old. Five or six months ago said to have been kicked in the abdomen, and soon after noticed a bunch in left inguinal region, not painful. For six weeks this has been increasing rapidly in size, and has been very tender and painful. Has been aspirated twice within the last month, and several ounces of blood withdrawn. Last catamenia four weeks ago. In the left inguinal region was a bunch as large as two fists, not adherent, smooth, flat on percussion, and somewhat movable, semi-fluctuating, and very tender. Vaginal examination showed uterus in normal position, apparently not connected with tumor. At half-past nine the next morning complained of sudden pain in the abdomen. Became semi-conscious, extremities cold, pulse very feeble. Temperature, 96.6°. Under free stimulation she rallied somewhat, and at four in the

afternoon I made an incision above and parallel to Poupart's ligament. On opening the peritoneal cavity, a large amount of clotted, dark blood escaped, the examination having disclosed a smooth, round, fluctuating tumor occupying the lower part of the abdomen, in the median line. Median incision then made nearly to umbilicus, through which immediately escaped a foetus, apparently in the fourth month, followed by immense clots of blood. A ruptured sac was found connected with the uterus and tube of the left side, adherent to everything in the pelvis, and containing the placenta. Sac was freed from its adhesions. Pedicle was tied with silk and cut off. Abdomen flushed out with hot saline solution. Wound closed with drainage. On the following day hæmorrhage began from the wound so profuse as to necessitate reopening the abdomen, and its source, though difficult to find, seemed to be traced to a general oozing from the floor of the pelvis. Hæmorrhage secured by packing with iodoform gauze. Pulse, however, never fully recovered its strength. Abdomen became much distended, and she died at three o'clock on the following day—I think of peritonitis, as well as from the result of the hæmorrhage.

This case illustrates the course of an extraperitoneal rupture, with continued development of the foetus and secondary rupture of the sac into the peritoneal cavity. I think, in the light of further experience, that under similar circumstances another time I would simply stitch the sac to the abdominal wound and pack with gauze. I believe that in that way the danger both of hæmorrhage and of infection would have been avoided. And the experience of others has certainly shown us that the sac treated in that way collapses and eventually disappears.

CASE IV.—Mrs. T., aged twenty-eight years, of Putnam, Conn. Was seen with Dr. F. A. Morrell, March 29, 1894. She had been married seven years. Had never been pregnant. Never very strong, and one year before had a cough which lasted so long as to raise the suspicion of its tubercular origin. This has, however, disappeared. Her catamenia began at fourteen years; were always regular. Eight years ago, after a severe fall, catamenia came as usual, stopped, and two or three days later she had a severe hæmorrhage. The same experience at next period. No irregularity since. Flow has been becoming more scanty. Was unwell last on the 23d of January. Some slight nausea and little pain in the breasts, and some pelvic discomfort followed. Has not felt well

since. When she had passed the February period she consulted a physician, who gave her a tonic. On the 12th of March she began to flow a little, not bright red, but dark, inodorous, with some pain, and these conditions had existed until yesterday. Did not feel well all day. Toward night had a sudden, severe pain in the abdomen, relieved by subcutaneous injection of morphine. A second attack, with collapse, at four this morning, when it seemed as if she would die at once. The abdomen was painful all over. No local tenderness. Soon became much distended. Her mind was clear. She was much exsanguinated. Rallied very slightly under persistent subcutaneous injections of brandy, digitalin, nitroglycerin, and morphine. Vomiting began with the first attack, and has continued through the morning. At two o'clock in the afternoon, pulse, 126; temperature, 99.8°. Pale, bloodless, and very weak. Vomiting every few minutes. Abdomen uniformly distended, though not very tense. No localized area of resistance or tenderness. Vaginal examination showed the cervix pushed over to the left side, while to the right of it the anterior vaginal wall was bulging with a hard body, as if the body of the uterus was pressed to the right, directing cervix to the left. Nothing posteriorly. Immediate operation advised and consented to.

On opening the peritoneal cavity a large amount of blood gushed out. Uterus was found pushed to the right, enlarged to the size of six or eight weeks. Left tube enlarged and ruptured on its upper surface, and readily delivered through the wound with the ovary. It was ligated and removed. One quart of clots and fluid blood was scooped out of the abdominal cavity. Patient was in a state of collapse, but seemed to rally some after the abdomen had been filled with hot water. Wound closed with glass drainage-tube. In spite of the extreme shock, she rallied slowly, but steadily, until, on the fifth day, the glass drainage-tube not having been removed, a faecal discharge was found in the wound. This seemed to come from the point on which the glass drainage-tube rested. Intestines had been considerably distended with gas, and I think the faecal fistula was caused by the pressure of the tube. It closed spontaneously in about two weeks. Patient's recovery was otherwise uneventful. The specimen, of which I present you with a drawing (Fig. 1), was thus described by Dr. Baker, the pathologist of the Worcester City Hospital:

"The tube measures nine centimetres in length, and contains

an ovoid dilatation, being two centimetres from the cut end and terminating 1.5 centimetre from the fimbriated extremity; its greatest circumference is nine centimetres. On the upper surface, at the point of greatest dilatation, is a rupture through the walls of the tube 2.5 centimetres long, through which protrudes a blood clot the size of a walnut. The cavity of the tube at the place of dilatation is lined with a thin, membranous sac completely filled with blood clot. No fœtus could be found, but microscopical examination of a portion of blood clot near the peritoneal wall showed numerous characteristic villi. The ovary is of normal size, and contains a corpus luteus half an inch in diameter.

"*Diagnosis.*—Ectopic pregnancy of left Fallopian tube, with rupture."

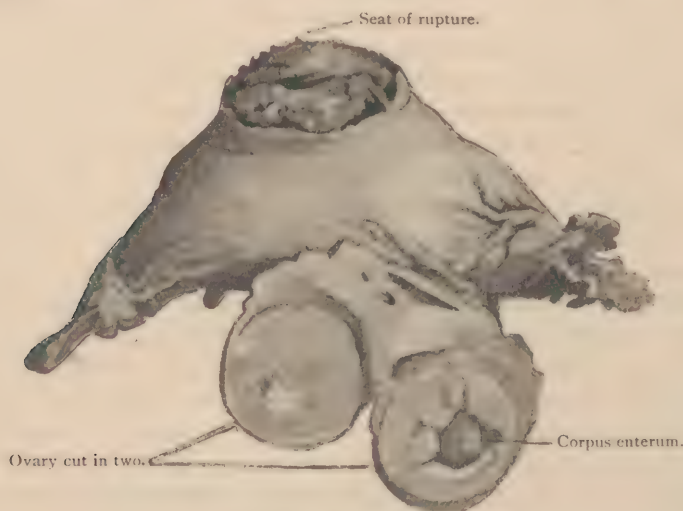


FIG. 1.

This case illustrates the primary intraperitoneal rupture of tubal pregnancy, the severest and most dangerous of all forms. They are the most difficult cases to deal with, because the collapse seems to contra-indicate any operative procedure until there shall have been some reaction; and yet we must recognize that the hæmorrhage is very possibly, perhaps probably, continuing. With such a condition in any more accessible part of the body, there could be no question of the necessity for immediately securing the source of the hæmorrhage, and I fail to see why the same reasoning should

not now apply to these cases of tubal rupture. Certainly some of the most brilliant results of recent abdominal surgery are to be found in just this class of cases. And although hopeless operations, which, as Dr. Richardson has said, "bring odium upon surgery and reproach, perhaps deserved, upon the surgeon," are always to be avoided (and some of these cases would seem to fall under that category), still, I think that increased familiarity with abdominal surgery and increased facility in the technique and the rapidity of operating, make it, at least in a great many of these cases, not only advisable, but imperative, to operate. In this particular case, I believe that a further delay would only have made the difficulties and dangers still greater, and perhaps have been fatal to the patient.

CASE V.—Miss H., aged twenty-eight years. Entered the Worcester City Hospital, December 12, 1895. Catamenia regular. On December 6th was seized with sudden, severe pain in abdomen and vomiting, and since then has been confined to the bed. She had previously had slight attacks of abdominal pain, lasting for a few minutes only, and not severe enough to cause her to give up her work. The abdomen was tense, very painful, quite prominent in the center, everywhere tender, but especially so in the epigastrium. Abdominal pain and tenderness continued, with occasional vomiting, until the evening of December 21st, when the pain became very much more severe. Vomiting very considerably increased in frequency. Her face became pale and drawn, her pulse very rapid. On the 22d she was somewhat exsanguinated, pulse very rapid—110—but of better strength. Abdomen showed increased resistance and increased tenderness on the left side. Median incision made on the 23d of December, and, upon opening the peritoneal cavity, a large amount of dark blood escaped, followed by many large clots. The right Fallopian tube was found to be very much enlarged and ruptured, but not bleeding. It was tied off, pedicle cauterized, the abdominal cavity irrigated with a sterilized salt solution, and closed without drainage. Her recovery was uneventful.

"Specimen is a right Fallopian tube, which is enlarged to a diameter of 3.5 centimetres, being slightly largest at the fimbriated extremity.

"There is a complete rupture of the tube wall on its under surface at the outer part, including the fimbriated extremity, for a dis-

tance of 4.5 centimetres, and a blood clot widely separates the edges of the tube wall at the point of rupture.

"Section through the wall and membranes beneath show clearly the amnion and chorion and numerous villi, which in many places have been torn apart by blood clot. The foetus is not in the clot which filled the tube, nor was the ovary attached to the specimen removed.

"*Diagnosis.*—Ectopic pregnancy, occurring in the right Fallopian tube, with rupture and escape of foetus."

In this instance an intraperitoneal rupture was not immediately fatal, and possibly the effused blood might have been absorbed; but, as has been stated, in view of the danger of secondary rupture or possible suppuration, the immediate operation was advised and carried out. I believe that it involves less danger than she would have been subjected to by further delay.

CASE VI.—Mrs. C., aged twenty-seven years. Referred to me by Dr. M. F. Fallon, May 21, 1894, and entered my service at St. Vincent's Hospital on the 30th. Has been married fourteen months. No children and no miscarriage. Catamenia always regular, but little pain, and no excessive flow. Last catamenia January 20th. Eight weeks later, without having had any symptom of pregnancy other than having missed her February period, was taken one Sunday afternoon with severe cramps in bowels, nausea and vomiting. Sat up Monday, but was seized again on Tuesday. From that time was in bed about four weeks; abdominal pain, tenderness, and lameness in right iliac region, nausea and vomiting. Once or twice a slight show of blood, and once a small mass as large as a filbert, which was supposed to be blood clot. Then much better for two weeks, though nausea and occasional vomiting persisted. No swelling or tenderness of breasts. At the end of two weeks pain suddenly came on again, with faintness and collapse. Friends thought she would die before the doctor could arrive. Since then pain and vomiting have gradually ceased. Had a little show, and on the 23d of May passed another little piece of clot, which, on examination by Dr. Baker, proved to contain decidual cells.

For a week past has improved very much in general appearance; tumor no larger.

Pale, somewhat emaciated; tongue lightly coated; heart and lungs normal; abdomen not distended, somewhat fuller on right side than on left; here it is somewhat tender, and, on deep palpa-

tion, presents definite tumor; hard, sharp outline, not at all movable.

Per vaginam, cervix hard, pointed, turned to the right; right side of vagina filled with hard mass; continuous, with tumor above, immovable.

Was kept quiet in bed until general condition decidedly improved, although local condition remained about the same. At the operation the omentum and intestines were found adherent to a mass in the pelvis, which, upon being separated, proved to be an amniotic sac containing foetus, and filled with blood clot partly organized. It was composed of the right Fallopian tube, very much distended, and apparently communicating with right broad ligament. This mass, including much of the broad ligament, was tied off and removed. Patient's convalescence was uninterrupted. I present also a drawing of this specimen (Fig. 2), with the pathologist's report:

"Specimen consists of an enlarged right Fallopian tube and ovary.



FIG. 2.

"The tube measures 9.5 centimetres, the whole of the removed portion being an ovoid-shaped dilatation, with a circumference of 16.5 centimetres. The tube is ruptured in a straight line on its upper

surface throughout a length of four centimetres, through which protrudes a mass of blood clot. The cavity of the tube contains a flattened foetus eleven centimetres in length, it being in first month at the time of its death, and a placenta which occupies most of the cavity on account of the hæmorrhage which has occurred in it. Apparently all of the hæmorrhage occurred into the placenta. The ovary is flattened and bound to the under surface of the tube near the uterine end, but there is no evidence of a corpus luteus.

"*Diagnosis.*—Ectopic pregnancy of right Fallopian tube, with rupture."

CASE VII.—Mrs. K., aged thirty-four years. Was seen September 9, 1895, in consultation with Drs. Burnett and Generoux, of Webster, and was removed to St. Vincent's Hospital on the following day. She was a stout, healthy German, accustomed to hard work. No previous illness. Married seventeen years; one child sixteen years old, and one miscarriage ten years ago. Catamenia always regular, not painful; flow scanty. In May catamenia appeared only as a very slight, pinkish discharge, and during the next four weeks had pain all the time. Was up and about, but kept hot applications on abdomen. In June had the same slight, pinkish flow, and took some medicine that made her flow a little more for two or three days. Pains continued, but were not severe. Last of July she had a severe hæmorrhage, lasting one week; discharged large clots. Two days later abdomen much distended, pain more severe, and was for the greater part of the time confined to the bed.

For three weeks has had flow, with chills and very severe abdominal pain; some vomiting. A pretty constant discharge for two or three days from rectum; character undetermined.

Her temperature was 101°; pulse, 120; tongue coated, moist. Expression pinched and anxious. The abdomen was very much distended; tympanitic above; dull in lower half; distention more marked on left side, where it was exquisitely tender, and seemed hard and resistant. P. V. vaginal vault very tender; uterus crowded to front and immovable; posterior *cul-de-sac* bulging, and seemed to be fluctuating; from rectum a constant discharge of glairy, sticky fluid mixed with fæces.

Temperature was persistently high, and, upon consultation with Dr. Leonard Wheeler, a probable diagnosis of pelvic abscess from pus tube diagnosed.

Under ether, I first made puncture into the posterior *cul-de-sac* of

the vagina, and obtained a little of a thick, clear, glairy fluid, much like that which escaped from the rectum. I then made a median abdominal incision, and came upon an irregular mass filling the pelvis and lower part of the abdomen, occupying all of the left side and part of the right. It was situated behind the uterus and broad ligament, lifting them well up out of the pelvis against the outer abdominal wall, and was adherent to their posterior surfaces, as well as to the intestines. It was very irregular in outline, part fluid and part solid. Around its upper border were many little thin-walled cysts containing a thin brown fluid. These were of various sizes, and their walls in many instances seemed to be made up by intestinal adhe-

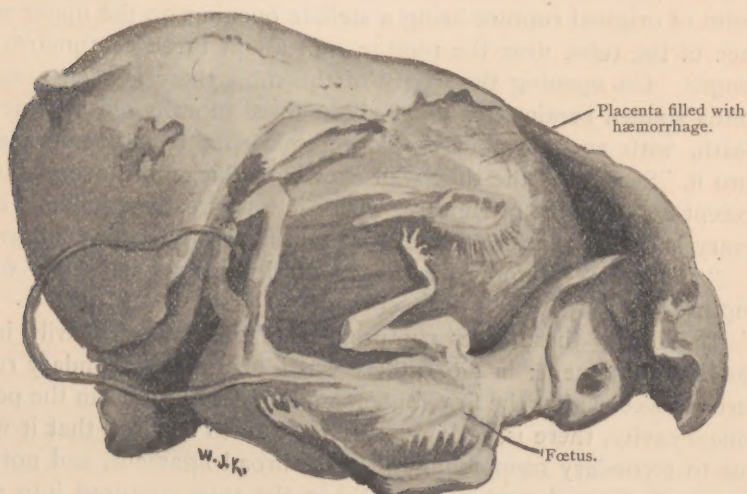


FIG. 3.

sions. The mass on the left side seemed to be composed of matted intestines, with very firm adhesions which could not be broken down. From the part of the mass in the median line and to the right I succeeded in enucleating this specimen, which had a pedicle on the right corner of the uterus, and included the right tube and ovary. In enucleating it, I opened a cavity on the left side leading down into the pelvis, and containing a large quantity of thick, green, foul-smelling pus. This was washed out and drained through the outer wound. From it, at different times, have escaped pieces of decomposed blood clot resembling those found in Cases I and II. I be-

lieve that the specimen represented a right-sided tubal pregnancy, that rupture took place about August 1st, and that the hæmatocele was subsequently infected through the intestinal walls. The abscess continued to discharge until the last of October, gradually but steadily diminishing. It finally closed completely, and she has been well ever since.

I present also a drawing of this specimen (Fig. 3), with the pathologist's report:

"Specimen consists of the right Fallopian tube and ovary.

"The length of the tube is eleven centimetres, the tube being a large, flattened mass with a circumference of 22.5 centimetres. Its walls are friable, and ruptured in several places in removal, the point of original rupture being a stellate opening on the upper surface of the tube, near the uterine end, about three centimetres in length. On opening the cavity of the tube, there is seen a male foetus sixteen centimetres long, about three months old at time of death, with an enormously enlarged placenta from hæmorrhage into it. Section of the tube wall showed a thickening everywhere, except at the point of rupture, where it was greatly thinned. The ovary is greatly flattened, and does not show any corpus luteus.

"*Diagnosis.*—Ectopic pregnancy of right Fallopian tube, with rupture."

In both of these cases rupture had taken place primarily into the broad ligament; in No. 6 there was a history of secondary rupture six weeks after the first, but, as no blood was found in the peritoneal cavity, there is, I think, every reason to suppose that it was due to secondary hæmorrhage into the broad ligament, and not to an intraperitoneal rupture. In No. 7 the tube ruptured into the broad ligament without destroying the life of the foetus; a secondary rupture into the peritoneal cavity destroyed the life of the child, and gave rise to the large hæmatocele which had been converted into an abscess. Both illustrate the probability of secondary rupture, the dangers that are likely to complicate it, and the chance of being obliged ultimately to interfere. I think such interference should come more properly in anticipation of such complications as soon as the presence of a tubal pregnancy, ruptured or unruptured, has been recognized.

